

**ABSTRACT OF THE DISCLOSURE**

An ion beam processing device has a sample holder for fixing a sample on which a section has been formed by irradiation of a specified focused ion beam from a surface side, and gas ion beam irradiation device for irradiating a gas ion beam to a region of the sample fixed using the holder member that contains the section to remove a damage layer on the section. The gas ion beam from the gas ion beam irradiation device irradiates the section from a rear surface side of the sample at a specified incident angle.